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Technical Note 82

Crawfish

Crawfish Fact Sheet 4

Where To Get Help

For more information about crawfish identification, stocking, and trapping, contact your local Natural Resources Conservation Service.

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Crawfish Forage

Forages

Although some type of vegetation must be utilized for forage, the main role of green vegetation is to furnish the material for decay, which becomes detritus. As organic matter (vegetation) decomposes, bacteria, other microorganisms and small animals (invertebrates) aid in decomposition. These organisms increase the nutritional quality of the vegetative forage. Crawfish production requires that the forage provide materials to the underwater food web throughout the growing season. Premature depletion of the vegetative forage can be a limiting factor for crawfish production. Vegetative forage must continually and consistently provide adequate amounts of material to the detrital system for the duration of the nine-month production season. Two basic forage systems are used for crawfish production. They are 1) the use of planted and cultivated forage crops and 2) the use of voluntary, naturally occurring vegetation.

Crawfish are benthic omnivores, which rely on vegetation associated with aquatic systems. They utilize little live, green plant material. The main role of the vegetation is to furnish matter which will decay and support numerous small invertebrates, and fish. The vegetation serves as the basis of the detrital food chain. For a forage to be considered beneficial to crawfish production, it should be relatively easy to establish, provide consistent quantity and quality below the water's surface, and maintain the basis for this type of food chain throughout the production season. This jobsheet reviews basic considerations regarding naturally occurring vegetation and planted vegetation.

Planted and Cultivated Forages

Cultivated forages provide a controlled detrital based system that results in good crawfish yields. Planting a cultivated agronomic crop is the most dependable method for providing suitable crawfish forage. It allows the farmer to control the type and amount of available forage. Forage density is more predictable with an agronomic crop because cultural practices are well established. The preferred forage to plant for crawfish is rice (*Oryza sativa*). Rice is grown for forage in most crawfish ponds in Louisiana. Rice has less of a negative impact on water quality than terrestrial plants because of its semi-aquatic nature and resistance to lodging. Rice can be planted for grain production with the post-harvest residue (stubble) and re-growth (ratoon) serving as crawfish forage, or it can be planted solely as crawfish forage. Even when rice is not grown for grain, it is necessary to provide fertilizer to assure growth and development.

Sorghum-sudangrass (*Sorghum sp.*) should be used only in ponds where forage is to be planted in late summer solely for crawfish. Because of its growth potential, target-planting dates should be early August through early September. Planting should not be postponed too long since cooler weather and short days of early fall may inhibit plant establishment and growth. Early plantings will result in tall, mature plants at flooding. If planted early, vegetation should be cut to one or two inch stubble in early to mid-August to allow for re-growth. The harvested sorghum-sudangrass can be baled and left in the pond. Also, if planted too early, sorghum-sudangrass is likely to reach physiological maturity before flood-up and can be detrimental to water quality when plants lodge or large numbers of leaves slough off into the water. Fertilizers can significantly increase growth and vegetative biomass of sorghum-sudangrass. In some fertile soils, no additional fertilizer will be necessary. Fertilizer application should be based on soil test results. The sorghum hybrids are typically sensitive to low soil pH, but no problem has been observed with soils that average a pH as low as 5.5.

Naturally Occurring Vegetation

When flooded, voluntary terrestrial vegetation usually decomposes rapidly. This reduces water quality and provides short-lived detrital sources. Aquatic and semi-aquatic plants such as alligatorweed (*Alternanthera philoxeroides*) and smartweeds (*Polygonium sp.*) are superior to terrestrial vegetation because they continue to live when flooded. But, like terrestrial grasses, the aquatic plants may not supply sufficient food to sustain high crawfish yields. Alligatorweed may cover an entire pond, providing high biomass, but crawfish production is unpredictable because much of the plant material is above the water and not available to the food web.

Two major disadvantages of using naturally occurring vegetation are:
(1) Stand density varies with location, time of the year and is unpredictable from one year to the next,
(2) Cultural practices for naturally occurring plant species are not well understood and many are considered noxious and are unwanted where agronomic crops will be grown in subsequent years.

Two major advantages of using naturally occurring vegetation include:
(1) There are no costs associated with planting
(2) and there can be reduced pumping costs in some instances with alligatorweed ponds.

References

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iii. 1990. Louisiana State University Agricultural Center, Louisiana Cooperative Extension Service. Southern Regional Aquaculture Center. Crawfish Production Systems. Publication 2426
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